

## **Remarks**

### **I. Status of claims**

Claims 1-20 were pending.

Claim 7 has been rewritten in independent form.

Claims 17-19 have been canceled.

Claims 21-25 have been added.

### **II. Claim rejections**

#### **A. Independent claim 1**

The Examiner has rejected claim 1 under 35 U.S.C. § 103(a) over Epstein (U.S. 6,601,172) in view of Hayosh (U.S. 6,611,598).

Independent claim 1 recites “modulating a base image with a graphical encoding of the signed message to produce a marked image.”

The Examiner has acknowledged that “Epstein fails to teach modulating a base image with a graphical encoding of the signed message to produce a marked image.” The Examiner, however, has asserted that:

Hayosh teaches the pattern code is included in clear text in the bar code and is included in data that is digitally signed so that no data could be altered without its being detected (col. 14, lines 19-22). Prevention of alteration is accomplished by modulating the image data with the clear text transmission.

Contrary to the Examiner's assertion, however, Hayosh's approach does not modulate a base image with a graphical encoding of a message. Instead, Hayosh encodes data, such as the payee's name and the amount involved in a document, in a standard stacked bar-and-space two-dimensional bar code format (e.g., a PDF-417 bar code). In such two-dimensional bar code formats information is not encoded by modulating a base image; instead, information is encoded in a stacked arrangement of bars and spaces.

Since neither Epstein nor Hayosh teaches or suggests the modulation of a base image to produce a marked image, no permissible combination of Epstein and Hayosh could

possibly teach the method recited in claim 1 in which a base image is modulated with a graphical encoding of the signed message to produce a marked image.

For at least these reasons, the Examiner's rejection of independent claim 1 under 35 U.S.C. § 103(a) over Epstein in view of Hayosh should be withdrawn.

B. Claims 2-6

The Examiner has rejected claims 2-6 under 35 U.S.C. § 103(a) over Epstein in view of Hayosh.

Each of claims 2-6 incorporates the features of independent claim 1 and therefore is patentable over Epstein and Hayosh for at least the same reasons explained above.

C. Claims 7-9

The Examiner has rejected claims 7-9 under 35 U.S.C. § 103(a) over Epstein in view of Hayosh.

Claim 7 recites "modulating a base image with a graphical encoding of the signed message to produce a marked image, wherein the base image includes an image of a handwritten signature." Regarding this feature of the invention, the Examiner has asserted that:

Epstein fails to teach a signed message includes an image of a handwritten signature. ...

Hayosh teaches a clear text contained in the bar code is further protected by being part of the message that is digitally signed (col. 7, lines 20-26). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the system of Epstein by including a handwritten signature. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Hayosh, in order to validate the sender of the message.

The Examiner, however, has misread claim 7. The fact that the clear text data in the two-dimensional bar code printed by Hayosh's method is part of the encoded message that is digitally signed has nothing whatsoever with the modulation of a base image that includes an image of a handwritten signature with a graphical encoding of the signed message to produce

a marked image. A digital signature is an encrypted text block that validates a certificate or other file; a digital signature has nothing whatsoever to do with an image of a handwritten signature. Moreover, as explained above, Hayosh does not even hint at a bar coding method in which a base image is modulated with a graphical encoding of a message to produce a marked image.

For at least these reasons, the Examiner's rejection of independent claim 7 over Epstein in view of Hayosh should be withdrawn.

Each of claims 8 and 9 incorporates the features of independent claim 7 and therefore is patentable over Epstein in view of Hayosh for at least the same reasons. These claims also are patentable for the following additional reasons.

Claim 8 recites that "modulating the base image comprises vectorizing the handwritten signature image." After acknowledging that Epstein fails to teach this feature, the Examiner asserted that:

Hayosh teaches a graphic file format means a raster format for data that is bit mapped. The file format allows the image of a picture to be inserted into a page with standard text (col. 7, lines 26-57).

In the section cited by the Examiner, Hayosh merely teaches that the two-dimensional bar code may be saved as a BMP file that may be imported into a Microsoft Word document that contains other elements of the check that is to be printed. This disclosure has nothing whatsoever to do with vectorizing an image of a handwritten signature and therefore is irrelevant to the subject matter recited in claim 8. There simply is nothing in Hayosh's disclosure that would have led one of ordinary skill in the art to vectorize an image of a handwritten signature.

Claim 9 depends from claim 8 and therefore is patentable for at least the same reasons. Claim 9 also recites "obtaining a set of base control points for the vectorized handwritten signature image, and encoding the information by displacing the base control points to obtain a marked set of control points from which the marked image is produced." After acknowledging that Epstein fails to teach these features, the Examiner asserted that:

Hayosh teaches a bar code encoder software which chooses the parameters of numbers of rows or columns, element width, element height, and the degree of error correction (col. 14, lines 31-37). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was

made to modify the system by Epstein by including a handwritten signature. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Hayosh, in order to validate the sender of the message.

The Examiner's conclusion, however, does not logically follow from his assertions regarding Hayosh's teachings. In particular, Hayosh's teaching of a bar code encoder software which chooses the parameters of numbers of rows or columns, element width, element height, and the degree of error correction would not have led one of ordinary skill in the art to modify Epstein's system to include a handwritten signature. Furthermore, in the section cited by the Examiner, Hayosh merely teaches that the encoder software chooses various parameters that format the two-dimensional bar code into columns and rows. This disclosure has nothing whatsoever to do with obtaining a set of base control points for the vectorized handwritten signature image, and encoding the information by displacing the base control points to obtain a marked set of control points from which the marked image is produced. There simply is nothing in Hayosh's disclosure that would have led one of ordinary skill in the art to perform the method recited in claim 9.

D. Claims 10-15

The Examiner has rejected claims 10-15 under 35 U.S.C. § 103(a) over Epstein in view of Hayosh and Vanstone.

Each of claims 10-15 incorporates the features of independent claim 1. Vanstone does not make-up for the failure of Epstein and Hayosh to teach or suggest "modulating a base image with a graphical encoding of the signed message to produce a marked image," as recited in claim 1. Therefore, each of claims 10-15 is patentable over Epstein in view of Hayosh and Vanstone for at least the same reasons explained above in connection with claim 1.

E. Independent claim 16

The Examiner has rejected claim 16 under 35 U.S.C. § 103(a) over Epstein in view of Hayosh.

Claim 16 recites that the encoder is configured to “modulate a base image with a graphical encoding of the signed message to produce a marked image.”

Claim 16 is patentable over Epstein and Hayosh for at least the same reasons explained above in connection with claim 1.

F. Claims 17-19

Claims 17-19 have been canceled without prejudice.

G. Independent claim 20

The Examiner has rejected claim 20 under 35 U.S.C. § 103(a) over Epstein in view of Hayosh.

Claim 20 recites that the computer-readable instructions cause the computer to “modulate a base image with a graphical encoding of the signed message to produce a marked image.”

Claim 20 is patentable over Epstein and Hayosh for at least the same reasons explained above in connection with claim 1.

III. Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

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